

Compression Force Sensor K-18 with Rated Force from 5 ... 5000 kN



Data sheet



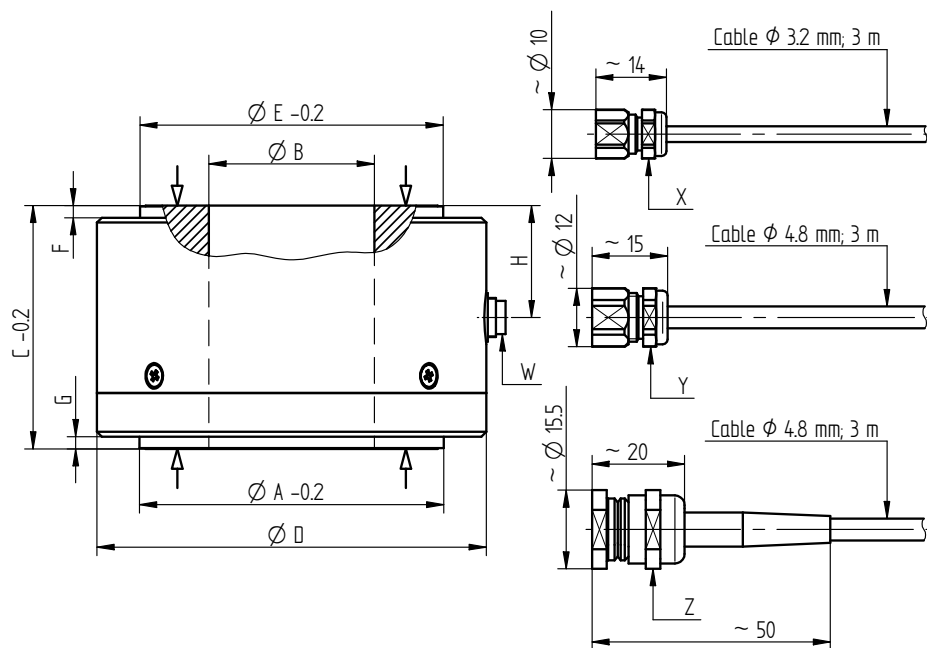
Performance Features

- Compression force sensor for press-in force survey
- TEDS (Transducer Electronic Data Sheet)
Standard IEEE 1451.4 (optional)
- Stainless steel
- Level of protection IP67
- Long-term stability
- Simple handling and assembly
- Special versions on request

Application

- Equipment engineering
- Automotive industry
- Measuring and control devices
- Fully automated machining centres
- Tool engineering
- Special mechanical engineering

Dimensions in mm



Article-No.	Rated Force [kN]	Dimensions [mm]												Weight [kg]
		$\varnothing A$	$\varnothing B$	C	$\varnothing D$	$\varnothing E$	F	G	H	W	X	Y	Z	
100475	5	10	5	30	30	10	2	2	15	-	X	-	-	0.2
100476	10	14	8	30	30	14	2	2	15	-	-	X	-	0.3
100477	20	22	15	30	40	22	2	2	15	-	-	X	-	0.4
100478	50	28	15	30	40	28	2	2	15	-	-	X	-	0.4
100479	100	35	20	40	55	35	2	2	20	-	-	-	X	0.6
100480	200	47.5	25	40	64	48	2.5	2.5	20	-	-	-	X	0.8
100481	500	60	30	50	80	60	4	3	25.5	X	-	-	-	1.4
100482	1000	88	68	100	129	88	4	5	46.5	X	-	-	-	5.1
100483	2000	106	68	100	160	105.6	5	5	46	X	-	-	-	9.0
100484	3000	125	68	100	160	124.6	5	5	46	X	-	-	-	10.0
101047	5000	220	100	120	270	220	5	5	60	X	-	-	-	30.6

Connection Assignment

K-18 [≤ 200 kN]		
Excitation (-)	Green	●
Excitation (+)	Brown	●
Signal (+)	Yellow	●
Signal (-)	White	○
Control signal or TEDS (option)	Gray	●
Shielding	Shield	⊕

6-pin	K-18 [≥ 500 kN]	
Pin 1	Excitation (-)	
Pin 2	Excitation (+)	
Pin 3	Shield	
Pin 4	Signal (+)	
Pin 5	Signal (-)	
Pin 6	Control signal or TEDS (option)	

Technical Data acc. to VDI/VDE/DKD 2638

Compression Force Sensor K-18 with Through Hole

Rated force F_{nom}	kN	5	10	20	50	100	200	500	1000	2000	3000	5000
Accuracy class	% F _{nom}	0.5										
Rel. repeatability error in unchanged mounting position b_{rg}	% F _{nom}	0.1										
Relative creep	% F _{nom} /30 min	<±0.1										
Rated characteristic value C_{nom}	mV/V	1.00 ±0.5 %										
Input/output resistance R_e/R_a	Ω	350										
Insulation resistance R_{is}	Ω	>2·10 ⁹										
Rated range of excitation voltage B_{U, nom}	V	2 ... 12										
Electrical connection:		Cable, PURS, 3 m with free strands [5 kN] Cable, PVC, 3 m with free strands [≥10 ... ≤200 kN] 6-pin series 723 ¹ [≥500 kN]										
Reference temperature T_{ref}	°C	23										
Rated temperature range B_{T, nom}	°C	-10 ... 70										
Operating temperature range B_{T, G}	°C	-30 ... 80										
Storage temperature range B_{T, S}	°C	-30 ... 80										
Temperature effect on zero signal TK₀	% F _{nom} /10 K	±0.1										
Temperature effect on characteristic value TK_C	% F _{nom} /10 K	±0.1										
Maximum operating force F_G	% F _{nom}	130										
Force limit F_L	% F _{nom}	150										
Breaking force F_B	% F _{nom}	>300										
Permissible oscillation stress F_{rb}	% F _{nom}	70										
Rated displacement S_{nom}	mm	<0.1										
Material		Stainless steel										
Level of protection		IP67										

Options

Article-No.	Description	
100218	Control signal	100 % F _{nom}
100739	Control signal	80 % M _{nom}
106154	Control signal	50 % M _{nom}
113134	TEDS-standard IEEE 1451.4	
42828	Extended temperature range	-30 °C ... 100 °C
42829	Extended temperature range	-30 °C ... 120 °C
42830	Extended temperature range	-40 °C ... 150 °C
103954	Calibration in kg or t	
107592	6-wire connection	

Calibrations

Article-No.	Description	
400628	Linearity diagram in accordance to factory standard	25 % steps
400170	Linearity diagram in accordance to factory standard	10 % steps
400960	Proprietary calibration acc. to DIN EN ISO 376 and DAkkS-DKD-R 3-3	3 steps
400652	Proprietary calibration acc. to DIN EN ISO 376 and DAkkS-DKD-R 3-3	5 steps
400640	Proprietary calibration acc. to DIN EN ISO 376 and DAkkS-DKD-R 3-3	8 steps
	DAkkS-Calibration/Standard on request	

¹ Female cable connector in scope of delivery at first delivery

Accessories

Dimensions of Thrust Piece ED7

Article-No.	Rated Force [kN]	Dimensions [mm]						Weight [kg]
		ØA	ØB	ØC	H	K	R	
42953	5	12	5	10	20	23	15	0.02
42954	10	16	8	14	25	28	28	0.04
42955	20	24	15	22	30	35	68	0.11
42956	50	30	15	28	30	35	108	0.17
42957	100	37	20	35	40	45	150	0.34
42958	200	50	25	41	45	49.5	230	0.65
42959	500	62	30	44	50	55	300	1.06
42952	1000/2000	120	68	110	80	85	1000	7.05
43913	3000	125	68	110	80	90	1000	7.67
44161	5000	220	100	195	120	135	1750	35.29

Please specify requested rated force at order!

Cable and input connector

Article-No.	Description
10323	Cable connector KS6 (6-pin series 581) incl. sensor mounting
10320	Cable connector KSSH15 (15-pin) incl. sensor mounting
43418	Input connector ZA9612FS (ALMEMO) incl. sensor mounting and connector calibration
49205	Input connector ZKD712FS (ALMEMO 202) incl. sensor mounting and connector calibration
10301	Female cable connector 6-pin series 581
10315	Female angled connector 6-pin series 682
10266	Connection cable, 3 m, 6-pin series 581, free strands
10387	Connection cable angled, 3 m, 6-pin series 682, free strands

Amplifiers

Examples of suitable amplifiers for the compression force sensor K-18:

LCV	GM 78	GM 40	GM 80	SI
				

Further suitable amplifiers you can find on our homepage under www.lorenz-messtechnik.de